

AMENDMENT OF THE CLAIMS:

Please cancel claims 7 and 17 without prejudice or disclaimer, and amend claims 1-3, 16, 18 and 19 as follows:

Claim 1 (currently amended): A system capable of producing a raster-type laser scanning pattern for scanning 2-D bar code symbols along x and y axis scanning directions, said system comprising:

a housing;

a light source disposed in said housing, for producing a light beam having cross-sectional characteristics suitable for scanning a 2-D bar code symbol along x and y axis scanning directions;

a first light beam scanning mechanism, disposed in said housing and responsive to a first control signal, for scanning said light beam along said x axis scanning direction using a first scanning element, wherein said first light beam scanning mechanism includes a first electromagnetically driven coil for driving said first scanning element;

a second light beam scanning mechanism, disposed in said housing and responsive to a second control signal, for scanning said light beam along said y axis scanning direction orthogonal to said x axis scanning direction using a second scanning element so as to produce a raster-type laser scanning pattern for scanning said 2-D bar code symbol along x and y scanning directions, wherein said second light beam scanning mechanism includes a second electromagnetically driven coil for driving said second scanning element;

light collecting means disposed in said housing, for collecting light reflected off a bar code symbol scanned by said raster-type laser scanning pattern;

light detecting means disposed in said housing, for detecting said collected light and producing scan data indicative of the intensity of said detected light; and

electronic scanning mechanism control circuitry, disposed in said housing, for electrically controlling the operation of said first and second scanning elements so as to produce a raster-type scanning pattern for scanning said 2-D bar code symbol along x and y axis scanning directions is produced;

wherein said electronic scanning mechanism control circuitry includes (i) a push-pull type drive circuit for producing an x-axis drive voltage signal having periodic characteristics, for driving said first scanning element along said x axis scanning direction, and (ii) an electronically-controlled potentiometer for producing a y-axis drive voltage signal periodically incrementing and decrementing in small quantized voltage level steps, in response to a control

signal generated independently from said x-axis drive voltage signal, for driving said second scanning element along said y axis scanning direction.

Claim 2 (currently amended): The system of claim 1, wherein said electronic scanning mechanism control circuitry electrically controls said first and second scanning elements in a synchronous manner so that said raster-type laser scanning pattern as a whole is substantially free of movement relative to said housing.

Claim 3 (currently amended): The system of claim 1, wherein said electronic scanning mechanism control circuitry electrically controls said first and second scanning elements in an asynchronous manner so that said raster-type laser scanning pattern as a whole moves back and forth along relative to said housing so as to improve the scanning of said 2-D bar code symbol when supporting said housing within the hand of an operator.

Claim 4 (original): The system of claim 1, wherein said light beam is a laser beam.

Claim 5 (original): The system of claim 1, wherein said housing is hand-supportable.

Claim 6 (original): The system of claim 1, wherein said housing is body-wearable.

Claim 7 (canceled)

Claim 8 (canceled)

Claim 9 (original): The system of claim 1, wherein said electronic scanning mechanism control circuitry comprises means for generating a plurality of y-axis drive voltage signals, each for driving said second scanning element at a different scan rate.

Claim 10 and 11 (canceled)

Claim 12 (original): The system of claim 10, wherein said first scanning element comprises a first mechanically-damped scanning element supported at one end from a first fixed anchoring structure, and driven in an off-resonant manner by said first electromagnetically driven coil; and wherein second scanning element comprises a second mechanically-damped scanning element

supported at one end from a second fixed anchoring structure, and driving in an off-resonant manner said second electromagnetically driven coil.

Claim 13 (original): The system of claim 12, wherein said first fixed anchoring structure and said second fixed anchoring structure are provided on a common support platform, in close proximity with each other.

Claim 14 (original): The system of claim 13, wherein said common support platform comprises an optical bench.

Claim 15 (original): The system of claim 1, wherein said housing is a miniature enclosure that can be supported on the hand of an operator.

Claim 16 (currently amended): A method of automatically producing a raster-type scanning pattern along x and y axis scanning directions, said method comprising the steps of:

- (a) producing a light beam having cross-sectional characteristics suitable for scanning said 2-D bar code symbol along said x and y axis scanning directions;
- (b) scanning said light beam along said x axis scanning direction using a first light beam scanning mechanism responsive to a first control signal and having a first scanning element;
- (c) scanning said light beam along said y axis scanning direction orthogonal to said ~~first reference~~ x axis scanning direction using a second light beam scanning mechanism responsive to a second control signal and having a second scanning element, so that a 2-D raster-type scanning pattern is produced for scanning said 2-D bar code symbol along said x and y axis scanning directions;
- (d) electrically controlling said first and second scanning elements so ~~as to produce a~~ ~~that~~ 2-D raster-type scanning pattern ~~having~~ has a number of scan lines proportional to the number of rows determined in said scanned 2-D bar code symbol;
- (e) collecting light reflected off a bar code symbol scanned by said 2-D raster-type scanning pattern;
- (f) detecting said collected light and producing scan data indicative of the intensity of said detected light; and
- (g) processing said scan data so as to determine the number of rows of data in said scanned 2-D bar code symbol, and produce control data indicative thereof.

Claim 17 (canceled)

Claim 18 (currently amended): The method of claim 16, wherein during step (c) said ~~scanning pattern is a raster-type 2-D scanning pattern having has~~ a first number of scan lines, and during step (g) said raster-type 2-D scanning pattern has a second number of scan lines which is greater than said first number of scan lines.

Claim 19 (currently amended): A system for automatically producing a raster-type scanning pattern having a number of scan lines matched to the number of rows of data contained in a 2-D bar code symbol being scanned, said system comprising:

    a housing;

    a light source disposed in said housing, for producing a light beam having cross-sectional characteristics suitable for scanning said 2-D bar code symbol;

    a first light beam scanning mechanism, disposed in said housing and responsive to a first control signal, for scanning said light beam along a first reference direction using a first scanning element;

    a second light beam scanning mechanism, disposed in said housing and responsive to a second control signal, for scanning said light beam along a second reference direction orthogonal to said first reference direction using a second scanning element, so as to produce a raster-type scanning pattern for scanning said 2-D bar code symbol;

    light collecting means disposed in said housing, for collecting light reflected off a bar code symbol scanned by said raster-type scanning pattern;

    light detecting means disposed in said housing, for detecting said collected light and producing scan data indicative of the intensity of said detected light;

    scan data processing means disposed in said housing, for processing said scan data and determine the number of rows of data in said scanned 2-D bar code symbol, and produce control data indicative thereof; and

    scanning mechanism control means, disposed in said housing and responsive to said produced control data, for electrically controlling said first and second scanning elements so as to produce a that said raster-type scanning pattern having has a number of scan lines proportional to the number of rows determined in said scanned 2-D bar code symbol.

Claim 20 (original): The system of claim 19, wherein said number of scan lines is at least two.

Claim 21 (original): The system of claim 19, wherein said light beam is a laser beam.

Claim 22 (original): The system of claim 19, wherein said housing is hand-supportable.

Claim 23 (original): The system of claim 19, wherein said housing is body-wearable.

Claims 24-51 (canceled)